

FIG. 1

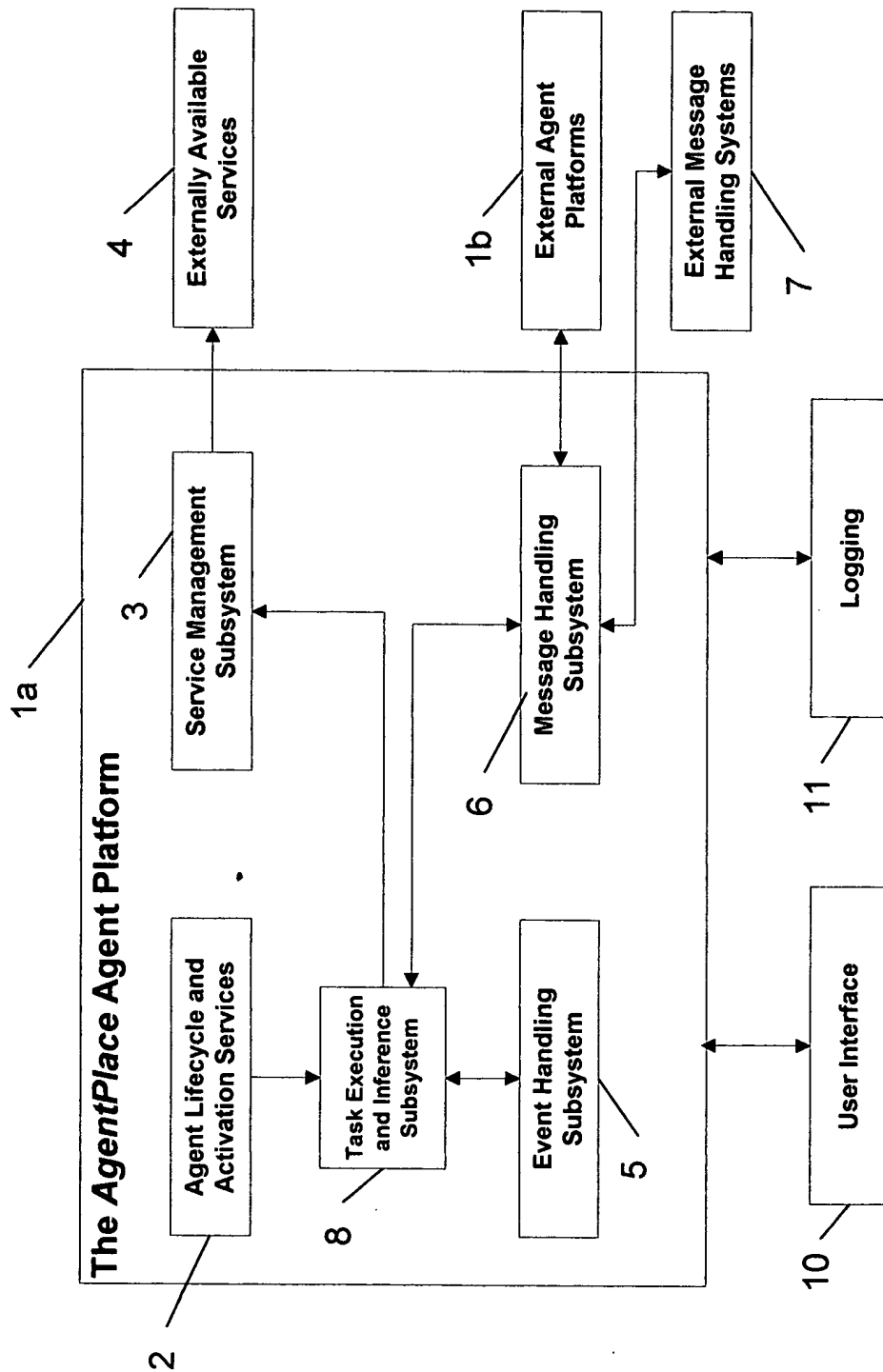


FIG. 2

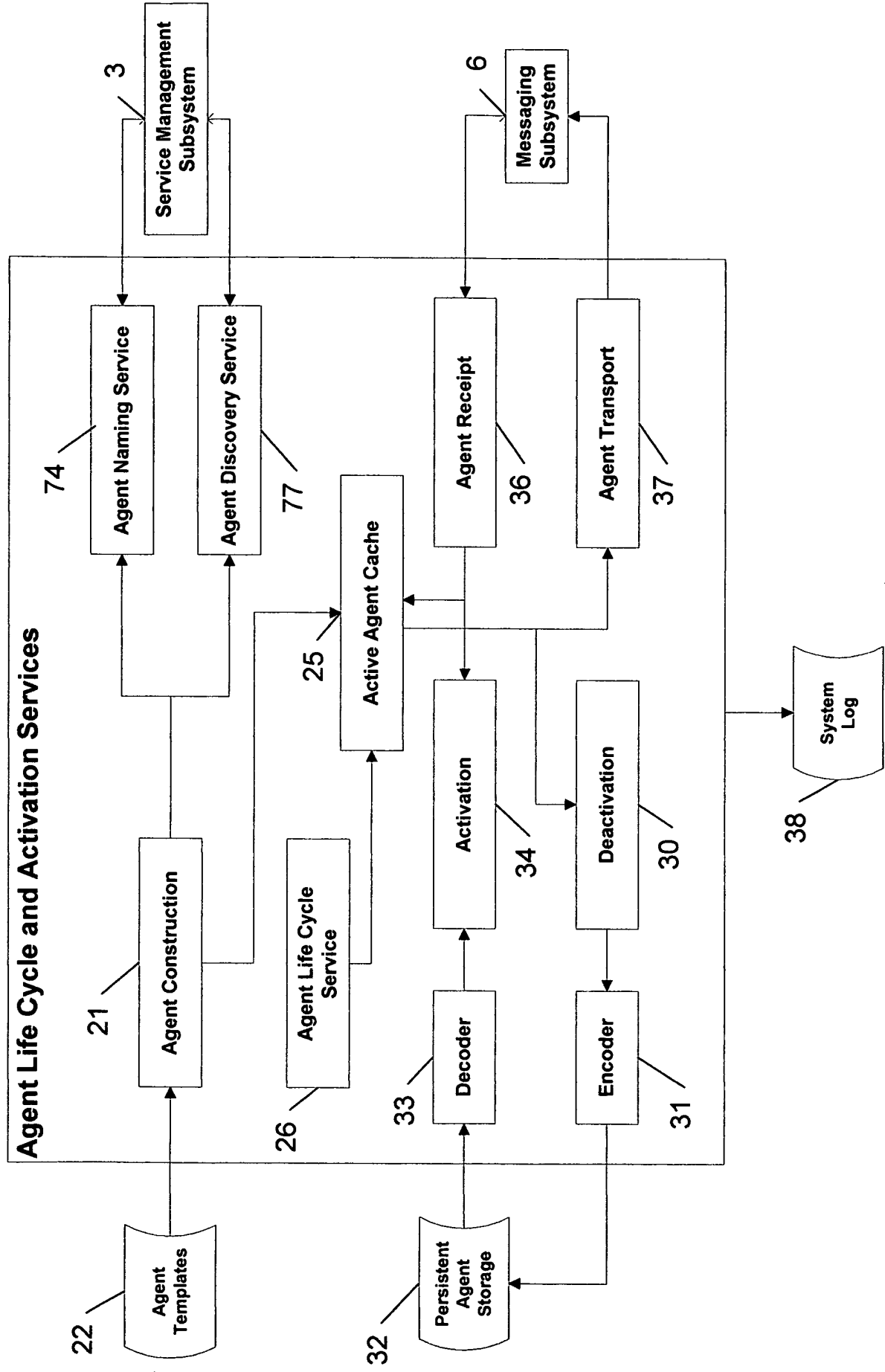


FIG. 3

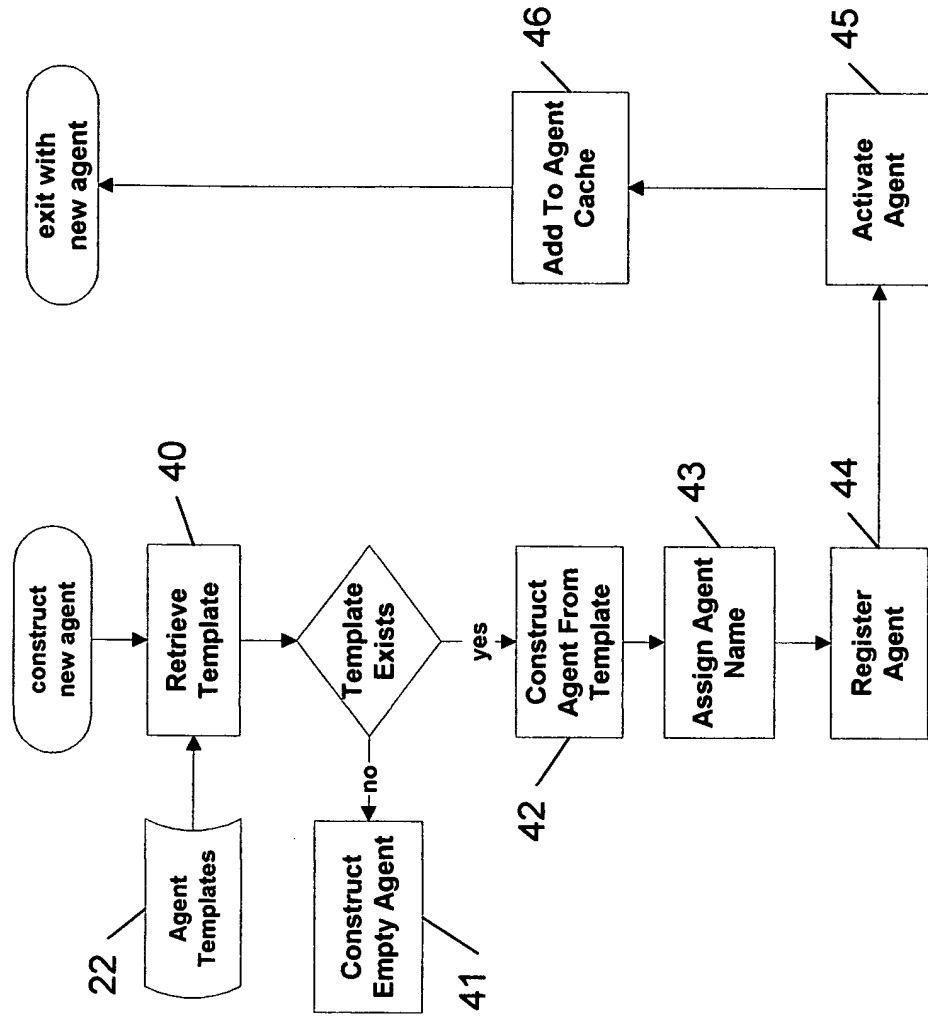


FIG. 4

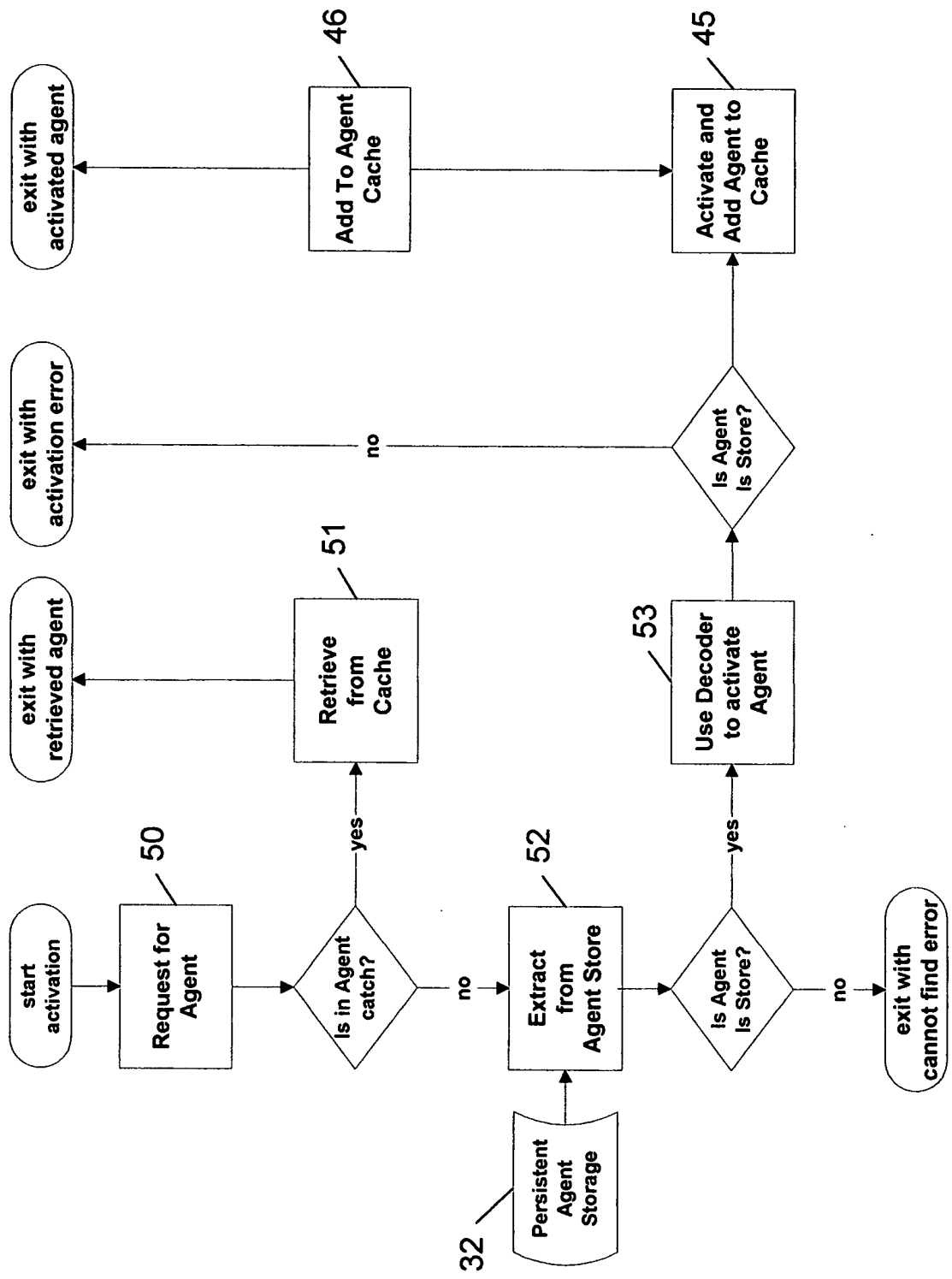


FIG. 5

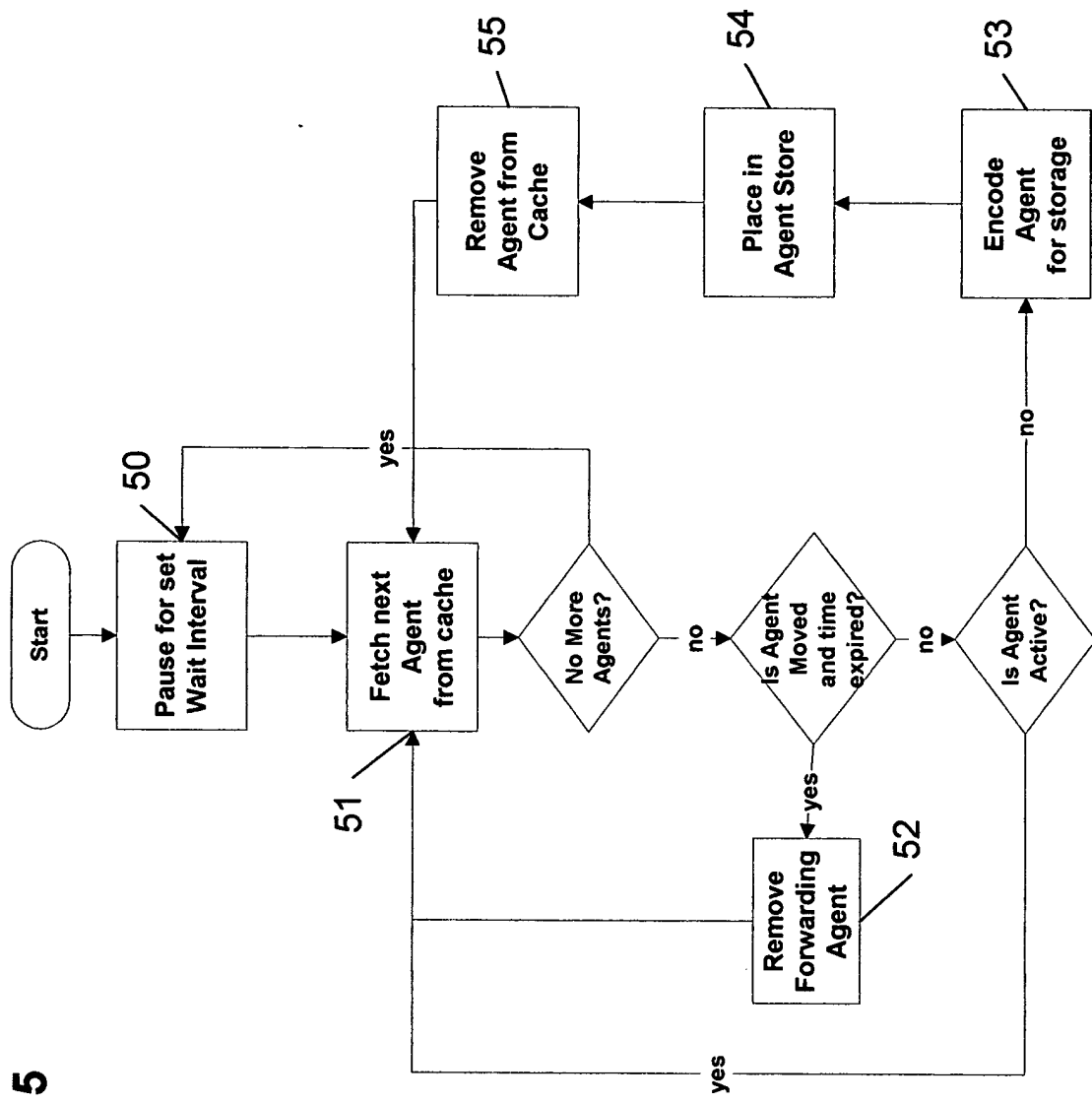


FIG. 6

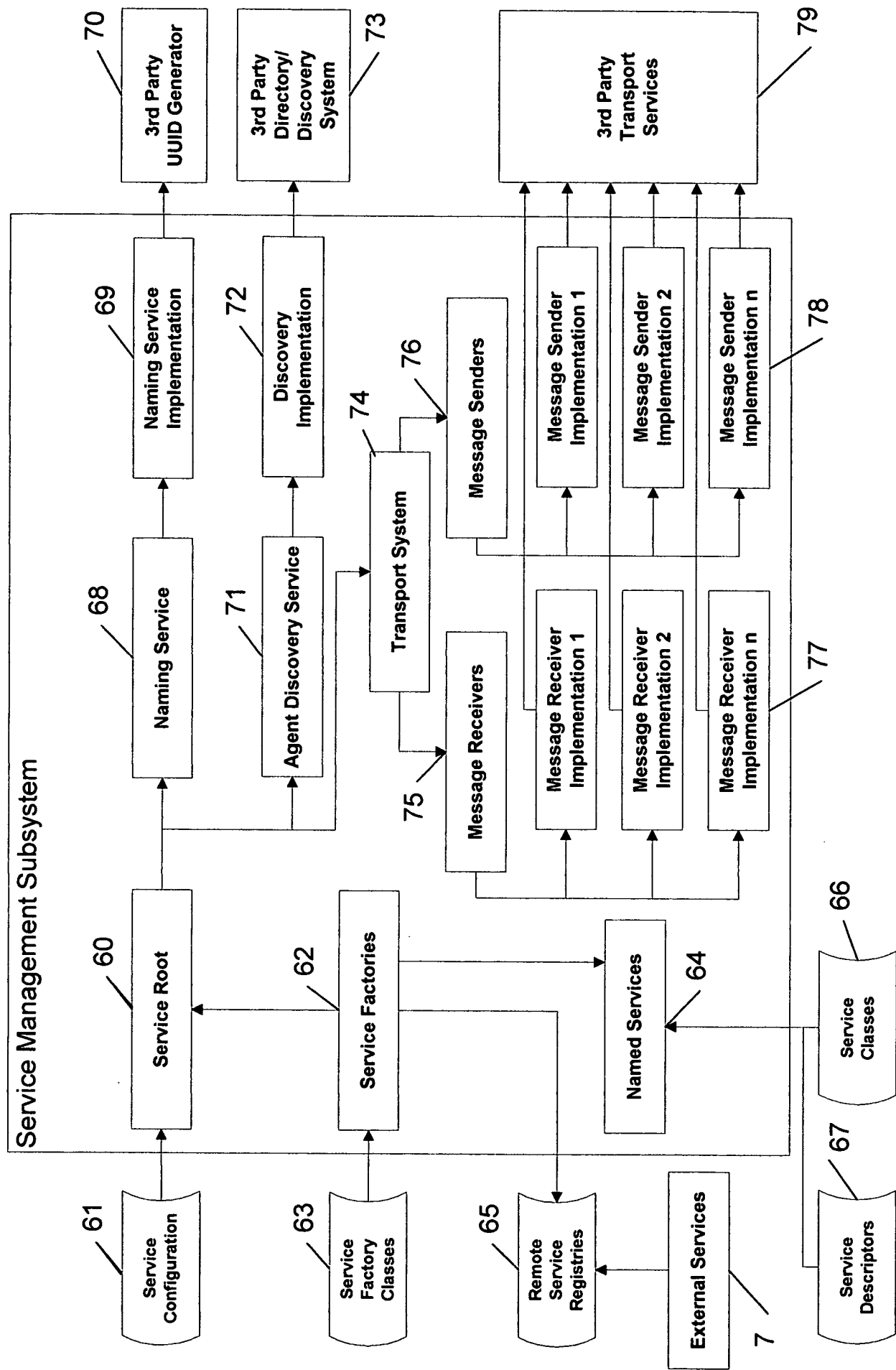


FIG. 7

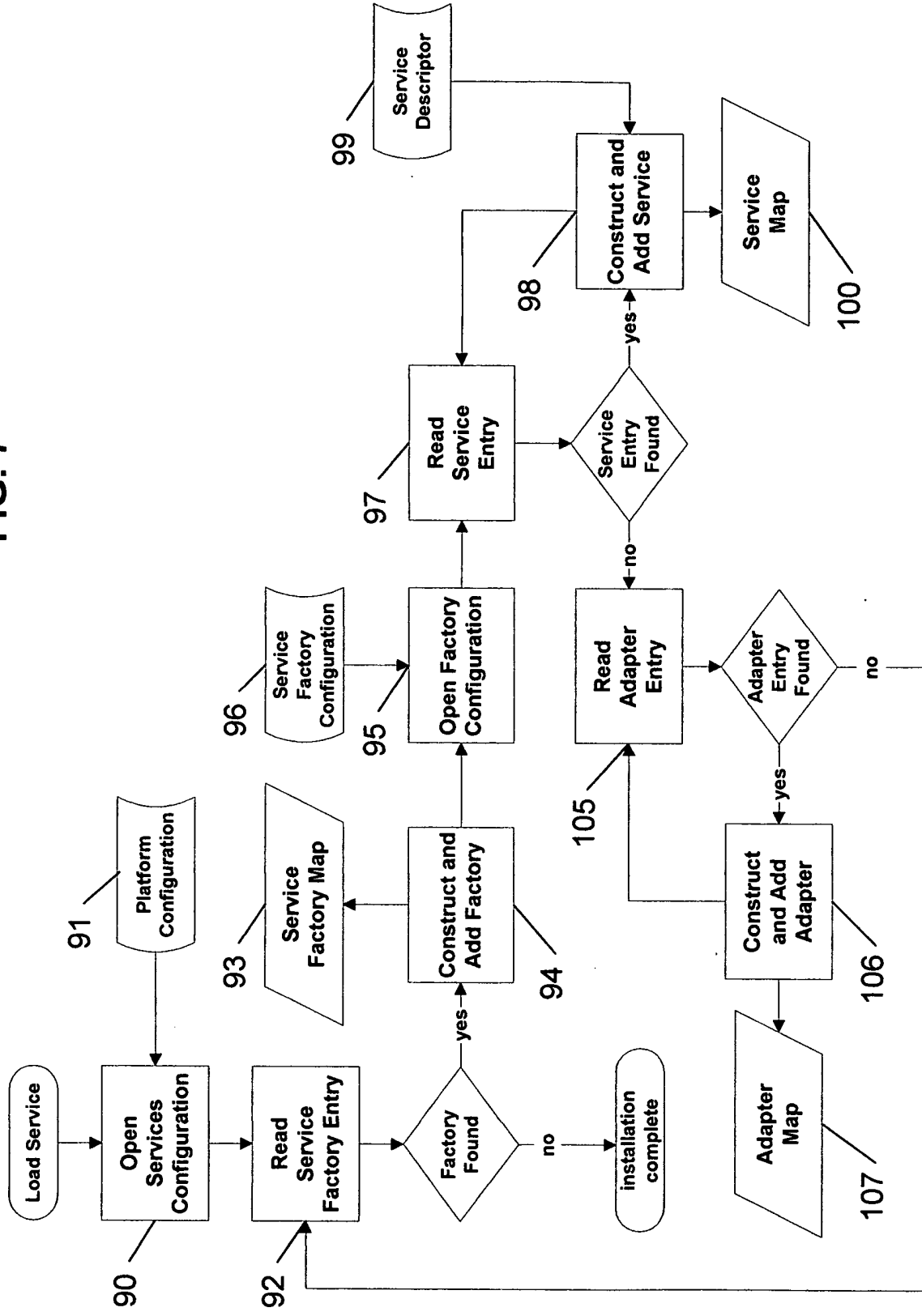


FIG. 8

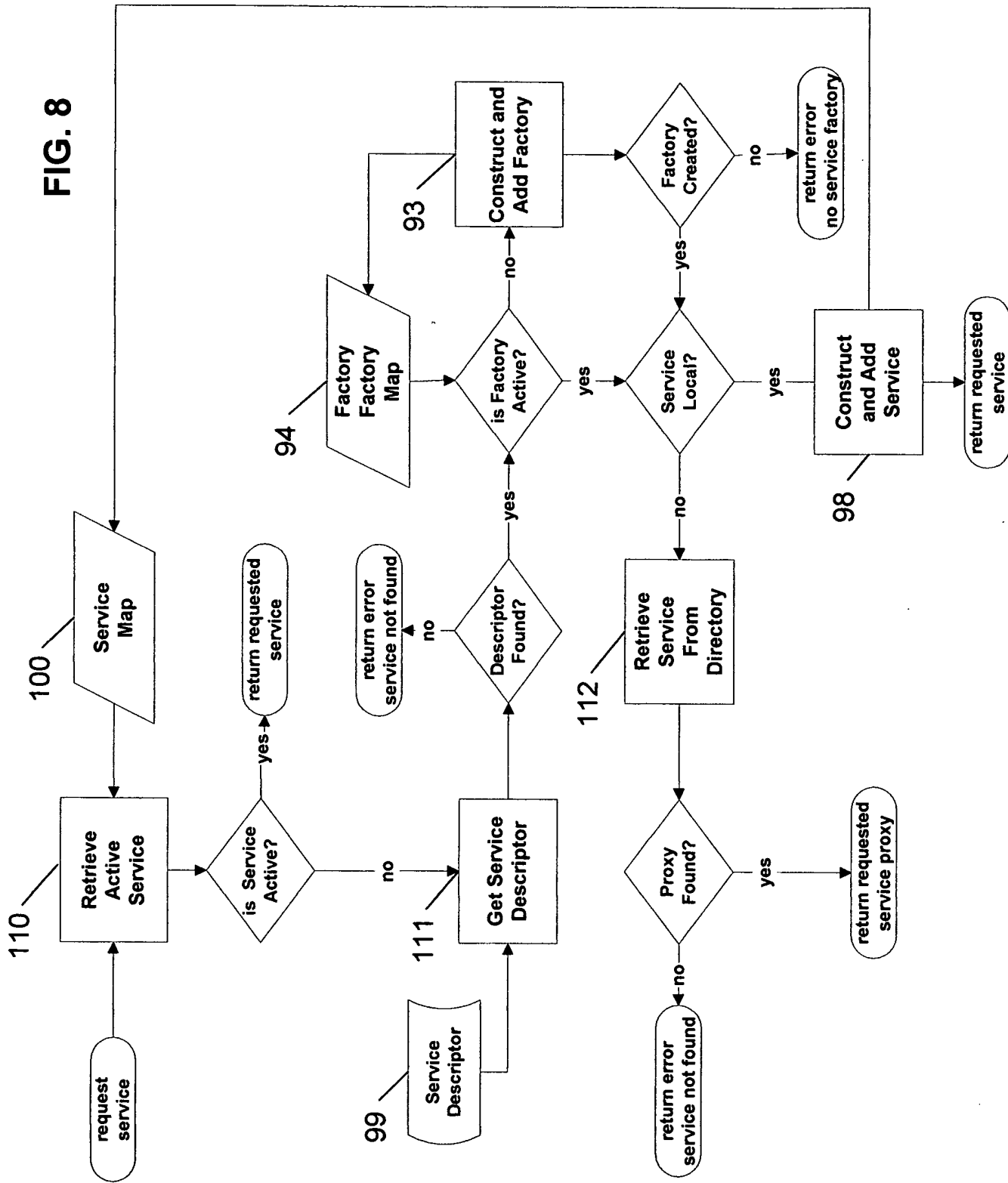




FIG. 9

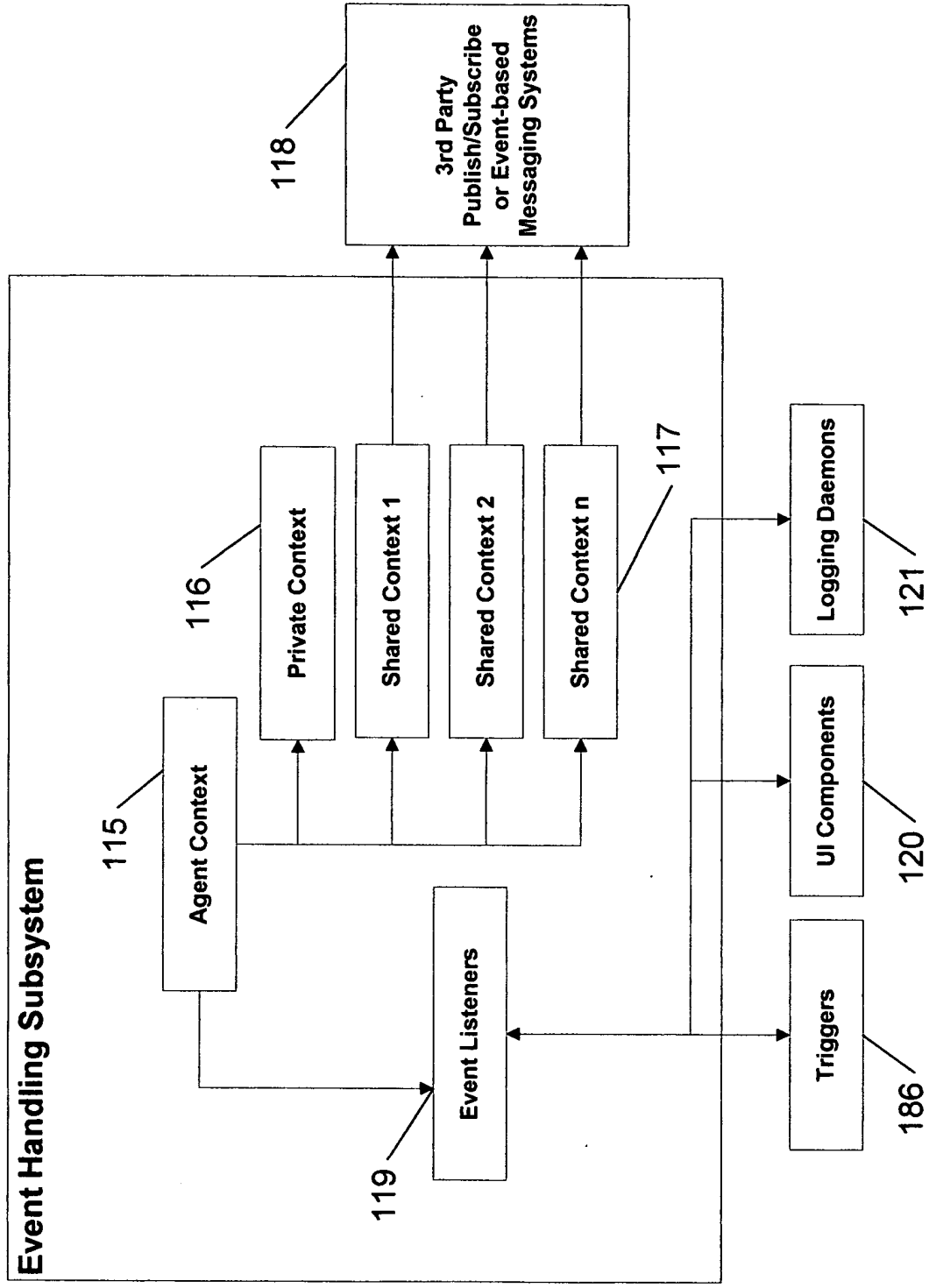


FIG. 10

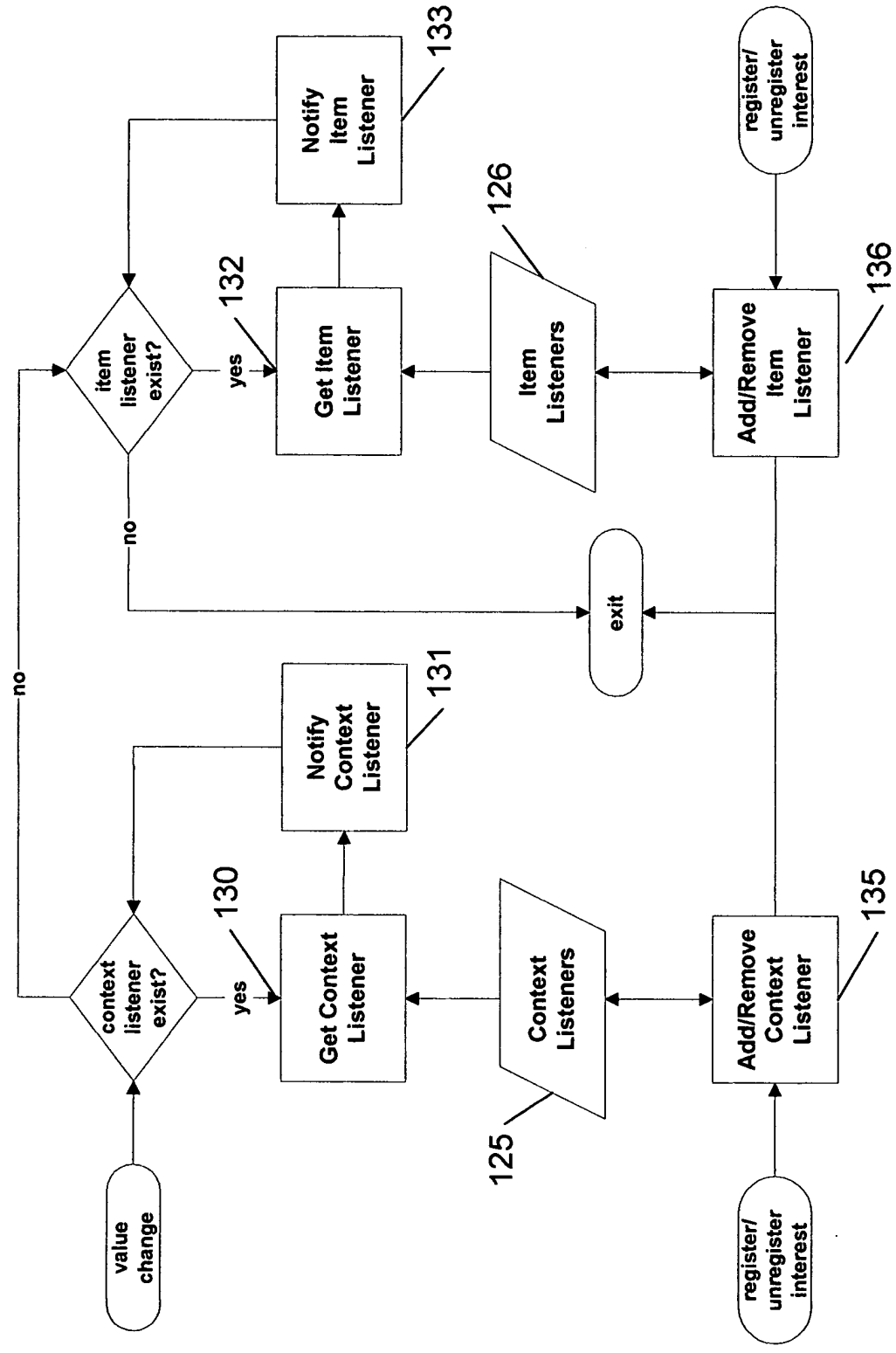


FIG. 11

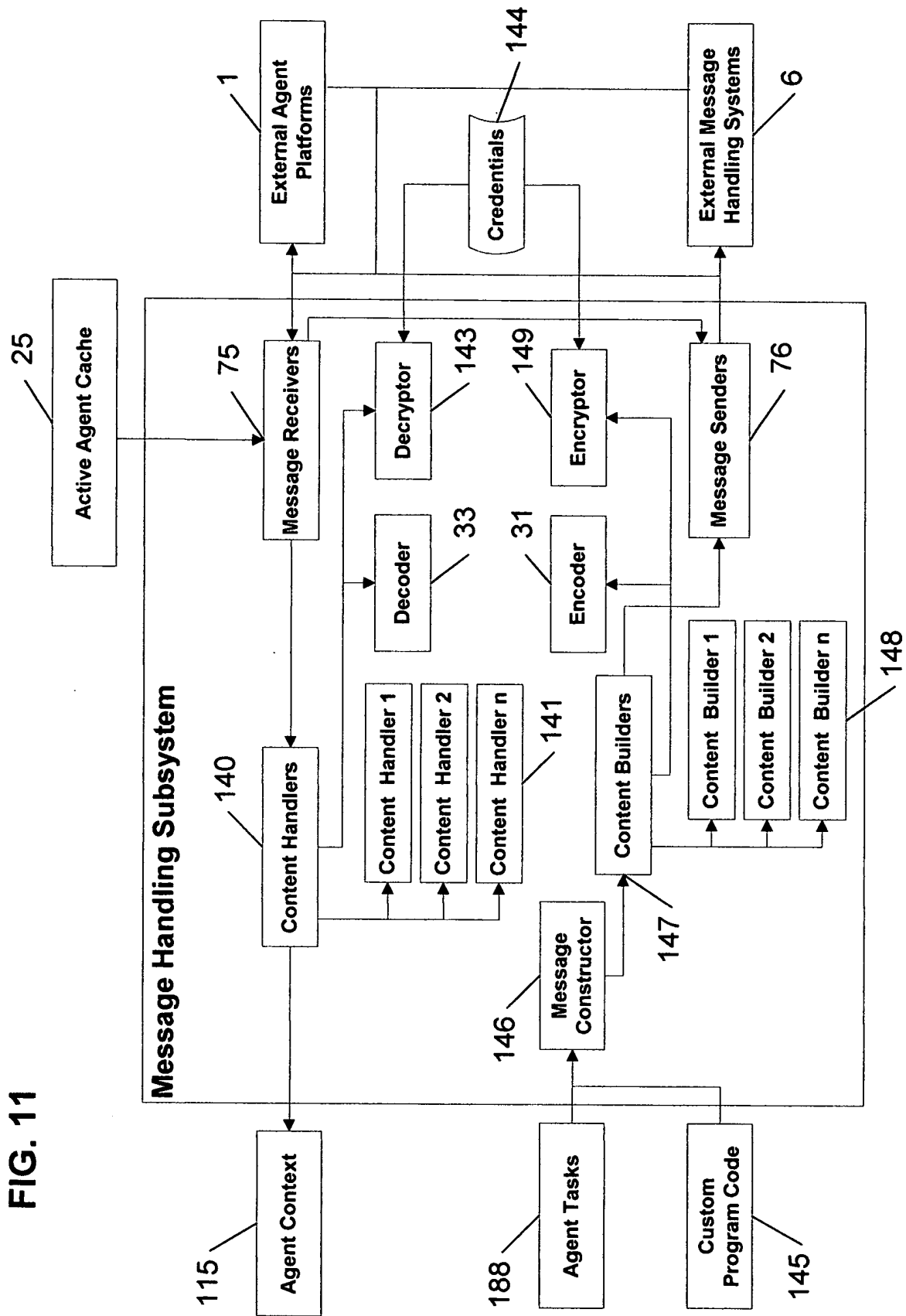


FIG. 12

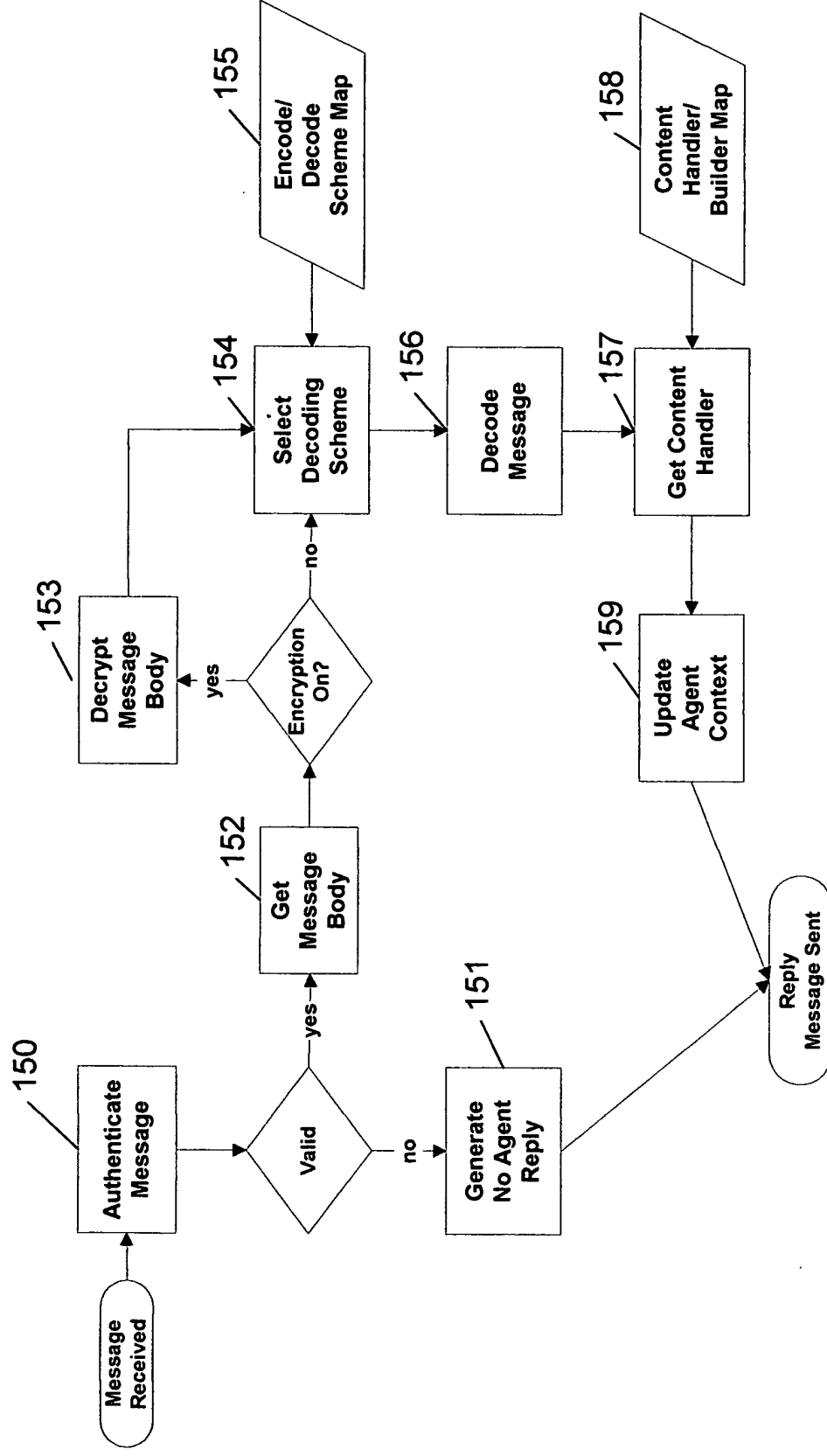


FIG. 13

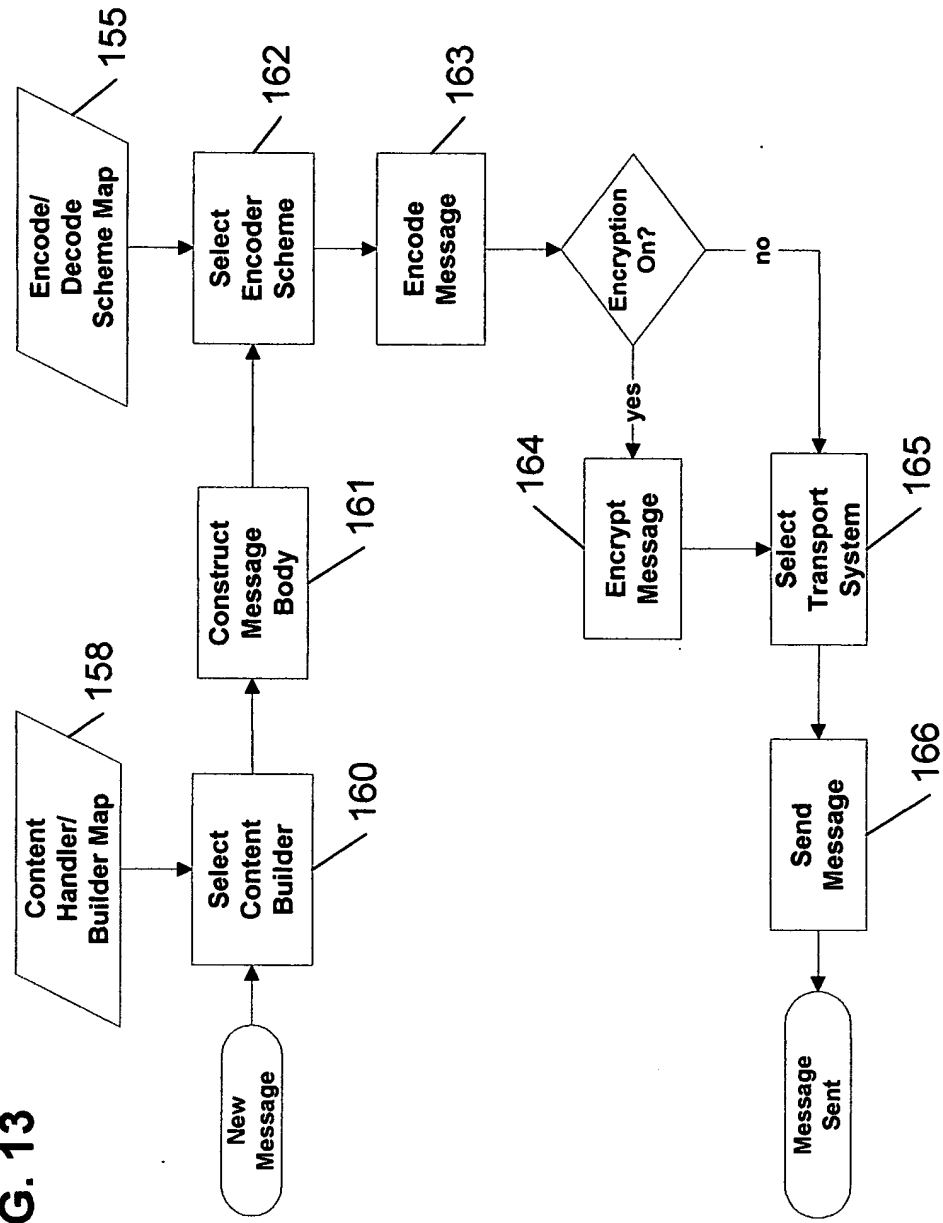
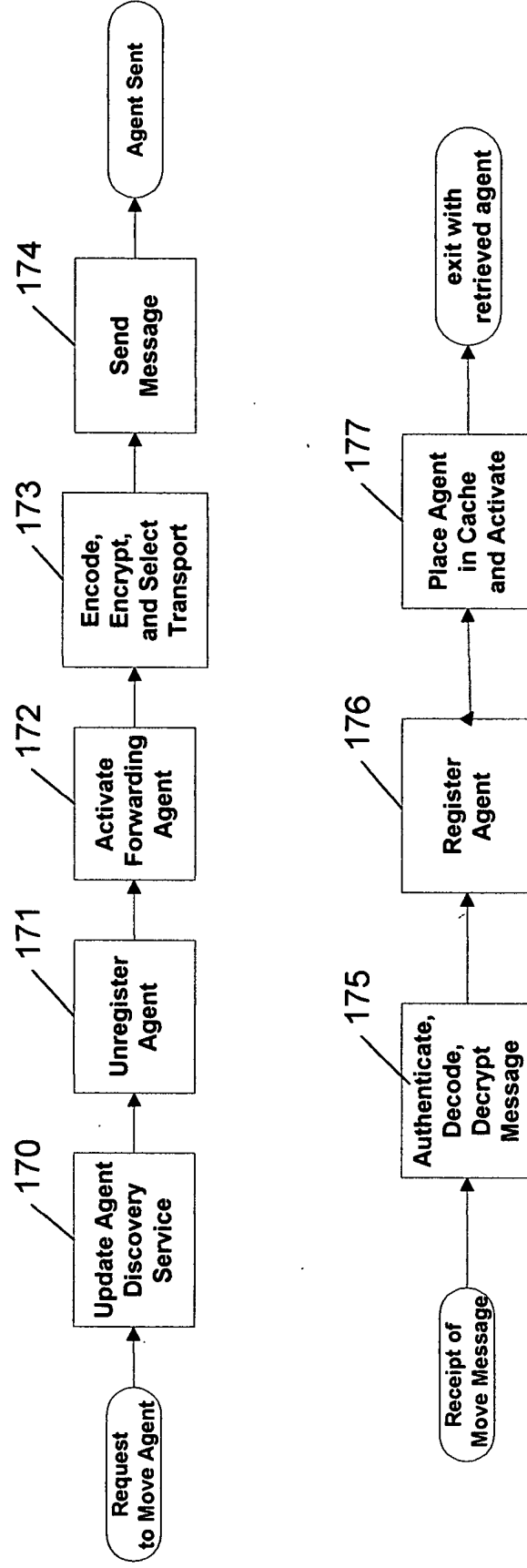


FIG. 14



**FIG. 15**

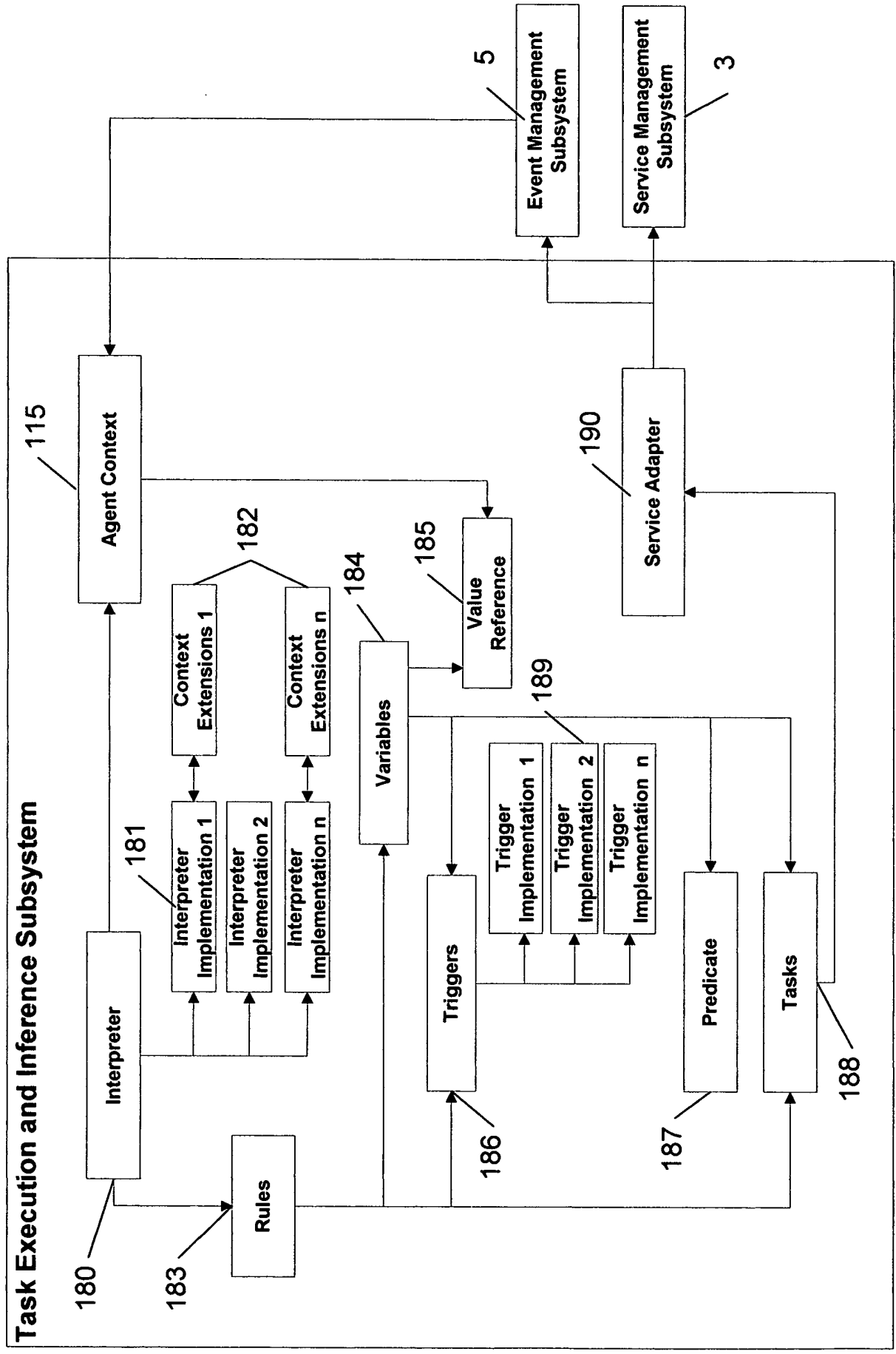


FIG. 16

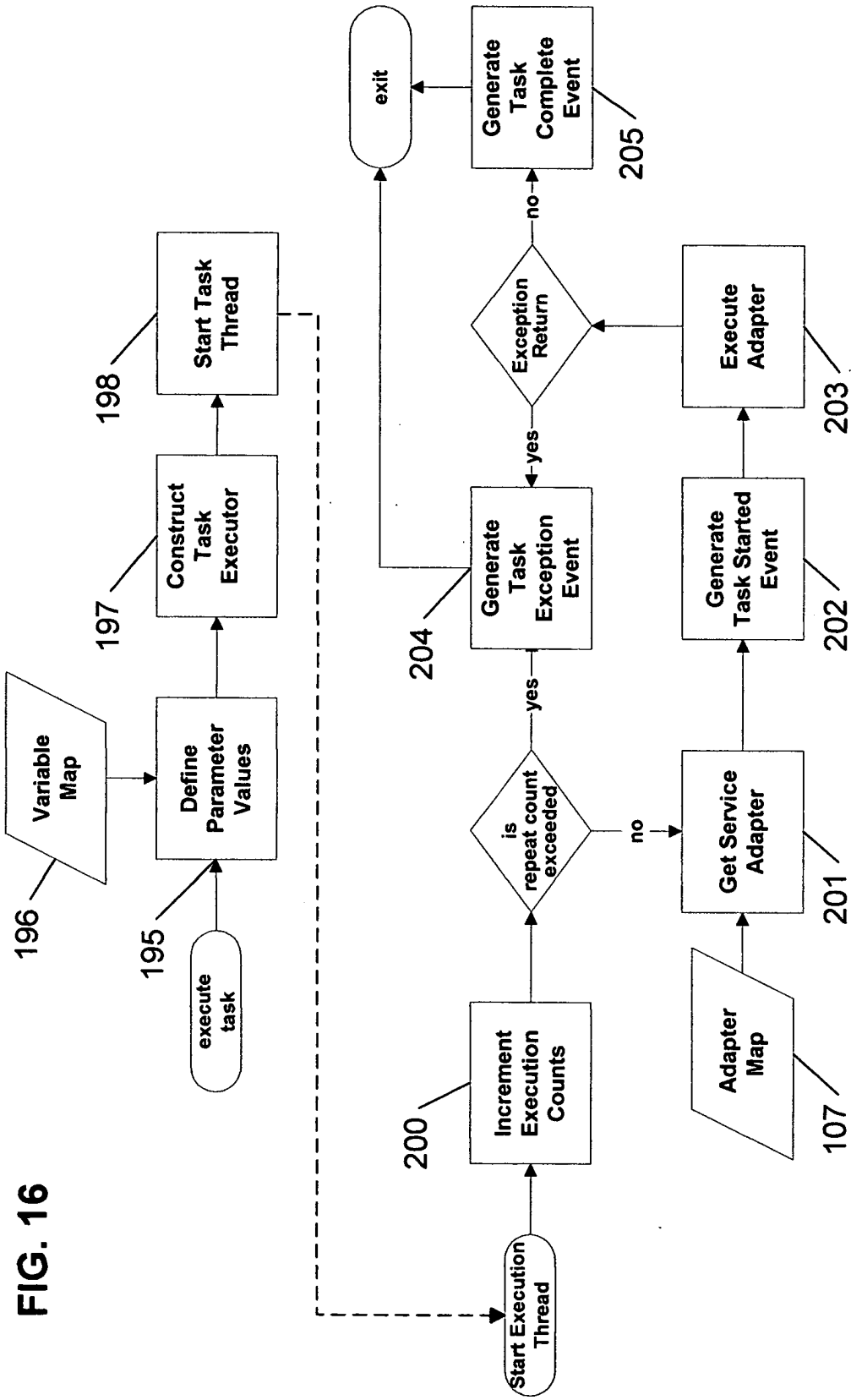




FIG. 17

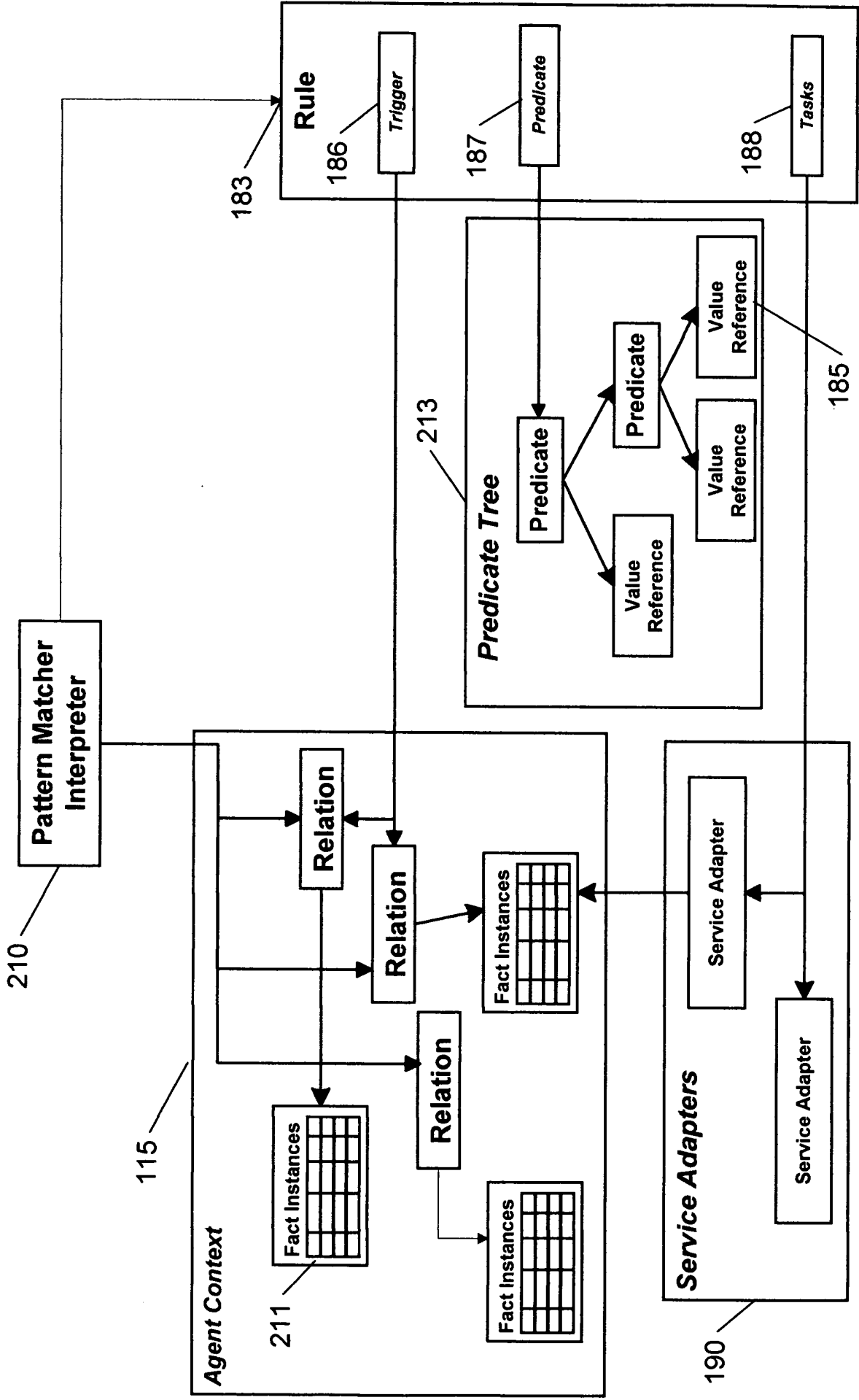


FIG. 18

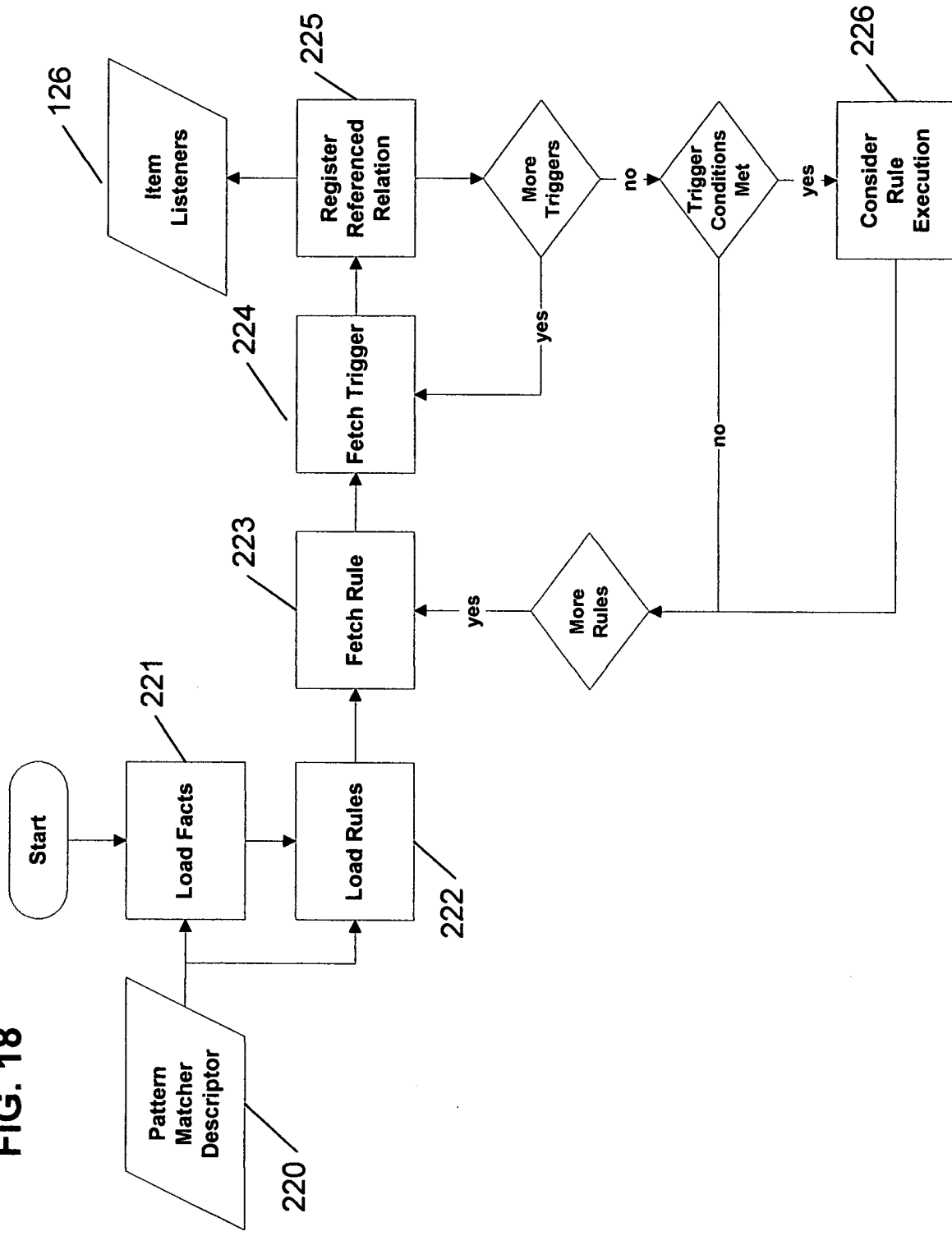


FIG. 19

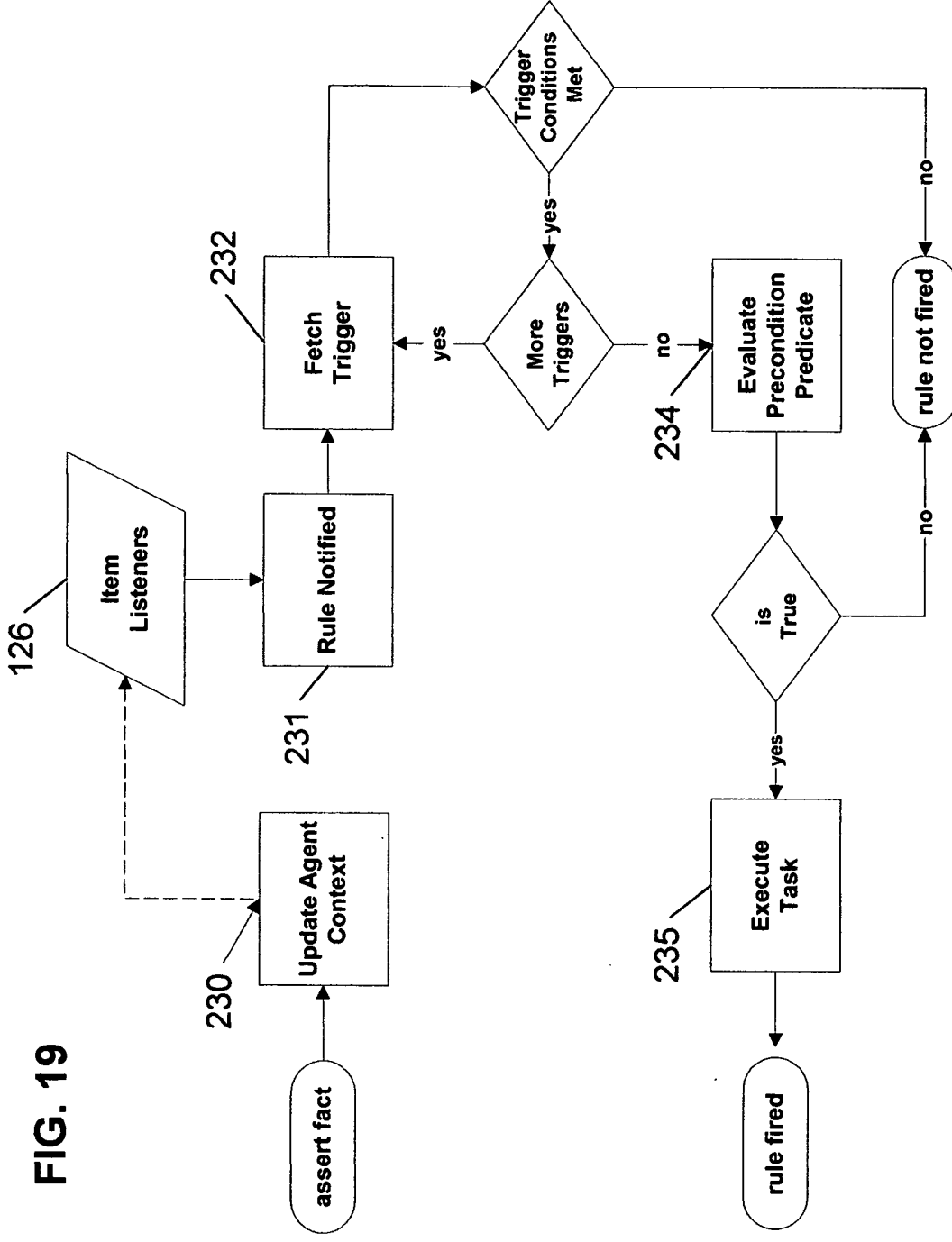
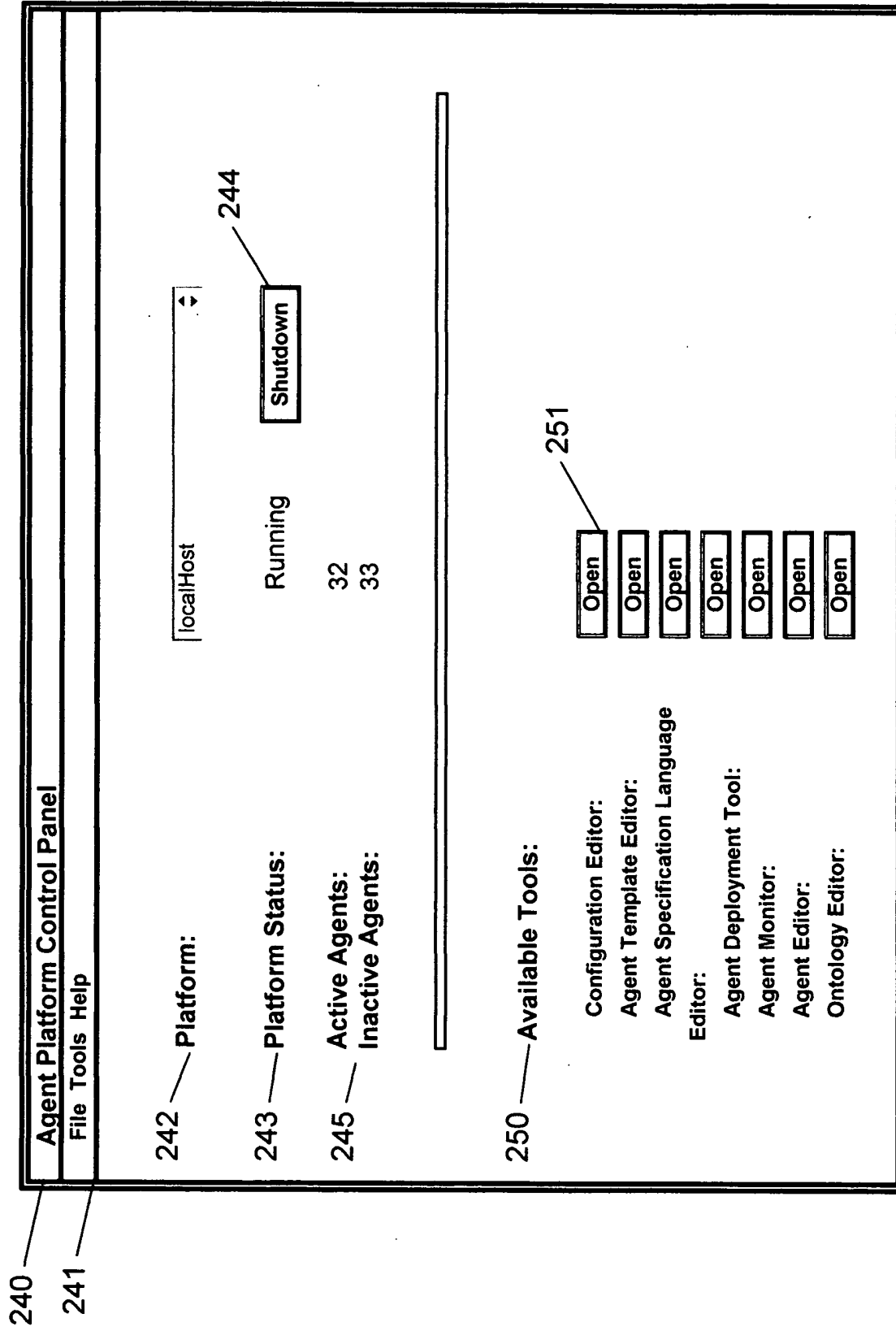


FIG. 20



**FIG. 21**

Configuration Editor

File Edit Configuration Tools Help

Configuration Tables:

Platform

PlatformSrvs

MaintApps

PartsToolsInventoryService

CheckpointReaderService

TCPMessageTransport

SNMPMessageTransport

SimpleTextEncoder-Decoder

XMLEncoder-Decoder

TextMessageHandle

AssertRetractFactMsgHandler

SSLEncryption

Create New

Remove

260

261

263

262

Attribute

Value

service.serviceConfigPath	/service
service.factories	PlatformSrvs, MaintApps, TCPSrvs
service.directory-service-factory	PlatformSrvs
service.naming-service-factory	PlatformSrvs
service.transport-system-factory	TCPSrvs service.factory.class.PlatformSrvs
platform.PlatformServiceFactory	
service.factory.class.MaintApps	power.MaintAppsFactory
service.factory.class.TCPSrvs	message.impl.TCPServiceFactory
message.messageConfigPath	/message
message.defaultTransport	tcp
message.encoders	default, xml
message.default.encoder	default
message.handlers	text, assert_revert, kqml
message.default.handler	assert_revert
message.encrypters	ssl
message.default.encrypter	none
inference.interpreterConfigPath	/interpreters
inference.interpreters	patternMatcher
inference.defaultInterpreter	patternMatcher
ontology.ontologyPath	/ontology
ontology.ontologies	PowerPlant
ontology.default	PowerPlant

Name: service.factories

268

Add

Value:

PlatformSrvs, MaintApps, TCPSrvs

271

Remove

Description:

List of all service factory names supported by this platform

272

Agent Template Editor

File Edit Templates Help

Agent Templates:

Facility Supervisor

Logistics Planner

Maintenance Engineer

Maintenance Truck

Part

Tool

Maintenance Schedule

Facility Checkpoint

Generator

Transformer

Relay

Switch

Breaker

Power Line

Distribution Substation

Alarm Monitor

282

Create New

283

Remove

General

Attributes

Rules

290

291

Template Name: Facility Checkpoint

292

Description:

This agent monitor information concerning personnel and equipment that may enter or exit part of a facility

293

Interpreter:

PatternMatcher

294

Transport:

TCP

295

Encoder:

Simple

296

Semantics:

Assert-Retract

297

Ontology:

Power Plant

298

Use Encryption:

☒

299

Type:

SSL

File Edit Templates Help

△					▽
Facility Supervisor	1	Logistics Planner	Maintenance Engineer	Maintenance Truck	Part
					Tool
					Maintenance Schedule
					<b>Facility Checkpoint</b>
					Generator
		Transformer	Relay	Switch	Breaker
				Power Line	Distribution Substation
					Alarm Monitor

**Remove**

755

**FIG. 23**

<b>Agent Template Editor</b>							
File Edit Templates Help							
<p><b>Agent Templates:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Facility Supervisor Logistics Planner Maintenance Engineer Maintenance Truck Part Tool Maintenance Schedule</td> <td style="width: 20%; text-align: center;">△</td> </tr> <tr> <td><b>Facility Checkpoint</b></td> <td></td> </tr> <tr> <td>Generator Transformer Relay Switch Breaker Power Line Distribution Substation Alarm Monitor</td> <td style="text-align: center;">▽</td> </tr> </table>		Facility Supervisor Logistics Planner Maintenance Engineer Maintenance Truck Part Tool Maintenance Schedule	△	<b>Facility Checkpoint</b>		Generator Transformer Relay Switch Breaker Power Line Distribution Substation Alarm Monitor	▽
Facility Supervisor Logistics Planner Maintenance Engineer Maintenance Truck Part Tool Maintenance Schedule	△						
<b>Facility Checkpoint</b>							
Generator Transformer Relay Switch Breaker Power Line Distribution Substation Alarm Monitor	▽						
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Create New</div> <div style="border: 1px solid black; padding: 5px;">Remove</div>							

General	Attributes	Rules
<div style="display: flex; justify-content: space-between;"> <span><b>Attribute Name:</b></span> <div style="flex-grow: 1;"> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Entry Area    △</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Maintenance Engineer</div> <div style="border: 1px solid black; padding: 2px;">Credential    ▽</div> </div> <div style="display: flex; gap: 10px;"> <div style="border: 1px solid black; padding: 5px;">New</div> <div style="border: 1px solid black; padding: 5px;">Remove</div> </div> </div> <hr/> <p><b>Description:</b></p> <div style="border: 1px solid black; padding: 5px; min-height: 100px;">Information About a Person that has just entered the checkpoint area</div> <div style="margin-top: 10px;"> <b>Type:</b> Fact    ▼         </div> <div style="margin-top: 10px;"> <b>Value:</b> (John, Maintenance Engineer, Generator Area A)         </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-top: 10px;">Assign/Edit Value</div>		

**Fact Entry Dialog**

**Ontology:**

- Power Plant
  - Personnel
    - Name
    - Position
    - Assignment
  - Equipment
  - Facilities
  - Processes

**Name:** Maintenance Engineer

**Description:** This agent monitor information concerning personnel and equipment that may enter or exit part of a facility

**Data:**

Attribute	Type	Value
Name	String	John
Position	String	Maintenance Engineer
Assignment	String	Generator Area A

Cancel Accept

313

## Processes

318



Agent Template Editor		File Edit Templates Help																																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Agent Templates:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Facility Supervisor</td> <td style="text-align: right; padding: 2px;">△</td> </tr> <tr> <td style="padding: 2px;">Logistics Planner</td> <td></td> </tr> <tr> <td style="padding: 2px;">Maintenance Engineer</td> <td></td> </tr> <tr> <td style="padding: 2px;">Maintenance Truck</td> <td></td> </tr> <tr> <td style="padding: 2px;">Part</td> <td></td> </tr> <tr> <td style="padding: 2px;">Tool</td> <td style="text-align: right; padding: 2px;">▽</td> </tr> <tr> <td style="padding: 2px;">Maintenance Schedule</td> <td></td> </tr> <tr> <td style="padding: 2px;"><b>Facility Checkpoint</b></td> <td></td> </tr> <tr> <td style="padding: 2px;">Generator</td> <td></td> </tr> <tr> <td style="padding: 2px;">Transformer</td> <td></td> </tr> <tr> <td style="padding: 2px;">Relay</td> <td></td> </tr> <tr> <td style="padding: 2px;">Switch</td> <td></td> </tr> <tr> <td style="padding: 2px;">Breaker</td> <td></td> </tr> <tr> <td style="padding: 2px;">Power Line</td> <td></td> </tr> <tr> <td style="padding: 2px;">Distribution Substation</td> <td></td> </tr> <tr> <td style="padding: 2px;">Alarm Monitor</td> <td></td> </tr> </table> </div> <div style="width: 45%;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;">             Create New           </div> <div style="border: 1px solid black; padding: 5px; text-align: center;">             Remove           </div> </div> </div>				Facility Supervisor	△	Logistics Planner		Maintenance Engineer		Maintenance Truck		Part		Tool	▽	Maintenance Schedule		<b>Facility Checkpoint</b>		Generator		Transformer		Relay		Switch		Breaker		Power Line		Distribution Substation		Alarm Monitor							
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Alarm Monitor																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%; padding: 5px;">General</th> <th style="width: 25%; padding: 5px;">Attributes</th> <th style="width: 50%; padding: 5px;">Rules</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="padding: 10px;"> <div style="display: flex; justify-content: space-between;"> <div> <p><b>Rule Name:</b></p> </div> <div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Check Tools-Parts</td> <td style="text-align: right; padding: 2px;">△</td> </tr> <tr> <td style="padding: 2px;">Valid Destination</td> <td></td> </tr> <tr> <td style="padding: 2px;">Credential Sensed</td> <td style="text-align: right; padding: 2px;">▽</td> </tr> </table> </div> </div> </td> </tr> <tr> <td colspan="3" style="padding: 10px;"> <p><b>Description:</b> Checks to see if engineer is assigned to work in this generator area</p> </td> </tr> <tr> <td colspan="3" style="padding: 10px;"> <p><b>Triggers:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Personnel</td> <td style="text-align: right; padding: 2px;">New</td> </tr> <tr> <td style="padding: 2px;">Work Order</td> <td style="text-align: right; padding: 2px;">Edit</td> </tr> <tr> <td></td> <td style="text-align: right; padding: 2px;">Remove</td> </tr> </table> </td> </tr> <tr> <td colspan="3" style="padding: 10px;"> <p><b>Precondition:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Invalid Destination</td> <td style="text-align: right; padding: 2px;">Edit</td> </tr> </table> </td> </tr> <tr> <td colspan="3" style="padding: 10px;"> <p><b>Tasks:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">SendAlarmMessage</td> <td style="text-align: right; padding: 2px;">New</td> </tr> <tr> <td></td> <td style="text-align: right; padding: 2px;">Edit</td> </tr> <tr> <td></td> <td style="text-align: right; padding: 2px;">Remove</td> </tr> </table> </td> </tr> </tbody> </table>				General	Attributes	Rules	<div style="display: flex; justify-content: space-between;"> <div> <p><b>Rule Name:</b></p> </div> <div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Check Tools-Parts</td> <td style="text-align: right; padding: 2px;">△</td> </tr> <tr> <td style="padding: 2px;">Valid Destination</td> <td></td> </tr> <tr> <td style="padding: 2px;">Credential Sensed</td> <td style="text-align: right; padding: 2px;">▽</td> </tr> </table> </div> </div>			Check Tools-Parts	△	Valid Destination		Credential Sensed	▽	<p><b>Description:</b> Checks to see if engineer is assigned to work in this generator area</p>			<p><b>Triggers:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Personnel</td> <td style="text-align: right; padding: 2px;">New</td> </tr> <tr> <td style="padding: 2px;">Work Order</td> <td style="text-align: right; padding: 2px;">Edit</td> </tr> <tr> <td></td> <td style="text-align: right; padding: 2px;">Remove</td> </tr> </table>			Personnel	New	Work Order	Edit		Remove	<p><b>Precondition:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Invalid Destination</td> <td style="text-align: right; padding: 2px;">Edit</td> </tr> </table>			Invalid Destination	Edit	<p><b>Tasks:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">SendAlarmMessage</td> <td style="text-align: right; padding: 2px;">New</td> </tr> <tr> <td></td> <td style="text-align: right; padding: 2px;">Edit</td> </tr> <tr> <td></td> <td style="text-align: right; padding: 2px;">Remove</td> </tr> </table>			SendAlarmMessage	New		Edit		Remove
General	Attributes	Rules																																							
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SendAlarmMessage	New																																								
	Edit																																								
	Remove																																								

## File Edit Templates Help

[illegible]

Create New

Remove

**General**      **Attributes**      **Rules**

**Rule Name:**

Check Tools-Parts	△
Valid Destination	
Credential Sensed	▽

**Description:**

Checks to see if engineer is assigned to work in this generator area

**Triggers:**

Personnel
Work Order

**Precondition:**

Invalid Destination
---------------------

**Tasks:**

SendAlarmMessage
------------------

322

327

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324

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328

329

331

333

334

335

New

Remove

New

Edit

Remove

Edit

New

Edit

Remove

FIG. 26

320

Edit Relation Dialog

Name: Maintenance Engineer321

Description:

This agent monitor information concerning personnel and equipment that may enter or exit part of a facility322

Data:

Attribute	Type	Value
Name	String	John324
Position	String	Maintenance Engineer
Assignment	String	?destination

329Cancel

328Accept

FIG. 27

**Edit Condition Dialog**

330

321

Predicates:

Invalid Destination	▲
	▼

332

New Predicate

333

Remove

Left Hand Side:

?destination

335

Operator:

not equals

336

Right Hand Side:

Generator Area A

339

338

☐ Constant  
☒ Variable  
☐ Predicate  
☐ Expression

340

Expression Editor

☒ Constant  
☐ Variable  
☐ Predicate  
☐ Expression

341

Cancel

Accept

342

FIG. 28

350

**Edit Task Dialog**

351 **Task Name:** SendAlarmMessage

352 **Description:** Notify the alarm monitor of engineer arriving at the wrong location

353 **Provider:** Platform Services

354 **Adapter:** Send Message

345

Parameter	Type	Value
Subject	String	?name
Location	String	?destination
Type	String	Entry Violation
Message	String	Unauthorized Entry Attempted

356

358

359

Accept

Cancel

FIG. 29

The diagram shows a dialog box titled "Deploy New Agent Dialog" (360). It contains three main input fields: "Name" (361) with the text "SuperCard Payer", "Description" (362) with the text "Makes Periodic payment from by saving account the the my Super charge card company", and "Use Template" (363) with a dropdown menu showing "Charge Card Payment Agent". Below these fields is an "Activate" checkbox (364) which is checked (X). To the right of the checkbox are two columns of buttons. The first column contains "Modify Values" (365) and "Cancel". The second column contains "Modify Rules" (366) and "Create Agent". The entire button area is labeled 368, and the area containing the checkbox and buttons is labeled 369.

360 Deploy New Agent Dialog

361 Name SuperCard Payer

362 Description Makes Periodic payment from by saving account the the my Super charge card company

363 Use Template Charge Card Payment Agent ▼

364 Activate ☒

365 Modify Values

366 Modify Rules

Cancel

Create Agent

368

369